

CLAIMS

1. A method for forming a catalyst layer on a substrate constituting a membrane electrode assembly, whereby a catalyst layer is formed by allowing electrode powder to adhere via the electrostatic force to the substrate that constitutes a membrane electrode assembly, comprising at least a step in which a screen is disposed in a state of non-contact with a substrate; voltage is applied between the screen and the substrate so as to electrically charge the electrode powder supplied to the screen; the electrode powder is pressed by an elastic body; and electrode powder is dispersed toward the substrate so as to adhere thereto via both the electrostatic force and the extruding force of the elastic body.
2. The method for forming the catalyst layer on the substrate constituting a membrane electrode assembly according to claim 1, comprising a process of dispersing electrode powder toward the substrate so that it adheres thereto using a feed roller made of an elastic material that serves as the above elastic body, which includes a step of supplying electrode powder to a feed roller and a step of allowing the feed roller to which the electrode powder has adhered to roll while being pressed against the screen.
3. The method for forming the catalyst layer on the substrate constituting a membrane electrode assembly according to claim 2, comprising a step of allowing electrode powder to adhere to the feed roller, which includes a step of electrically charging the electrode powder.
4. The method for forming the catalyst layer on the substrate constituting a membrane electrode assembly according to any one of claims 1-3, wherein the substrate is an electrolyte membrane or a gas diffusion layer.
5. An apparatus for forming a catalyst layer on a substrate constituting a membrane electrode assembly, in which a catalyst layer is formed by allowing electrode powder to adhere via the electrostatic force to a substrate that constitutes a membrane electrode assembly, at least comprising: a means of holding a screen in a state of non-contact with the substrate; a means of applying a voltage between the screen and the substrate; a

means of supplying electrode powder to the screen; and a means of pressing the electrode powder supplied to the screen toward the substrate, in which electrode powder is dispersed toward the substrate so as to adhere thereto via both the electrostatic force and extruding force of an elastic body.

6. The apparatus for forming the catalyst layer on the substrate constituting a membrane electrode assembly according to claim 5, comprising a hopper that accommodates electrode powder and a feed roller installed on the outlet side of the hopper, in which the feed roller is allowed to roll in contact with the screen by pressure, and wherein the feed roller constitutes a means of supplying electrode powder to the screen and a means of pressing electrode powder supplied on the screen toward the substrate.

7. The apparatus for forming the catalyst layer on the substrate constituting a membrane electrode assembly according to claim 6, comprising a means by which electrode powder accommodated in the hopper is electrically charged.

8. The apparatus for forming the catalyst layer on the substrate constituting a membrane electrode assembly according to any one of claims 5-7, in which the substrate is an electrolyte membrane or a gas diffusion layer.